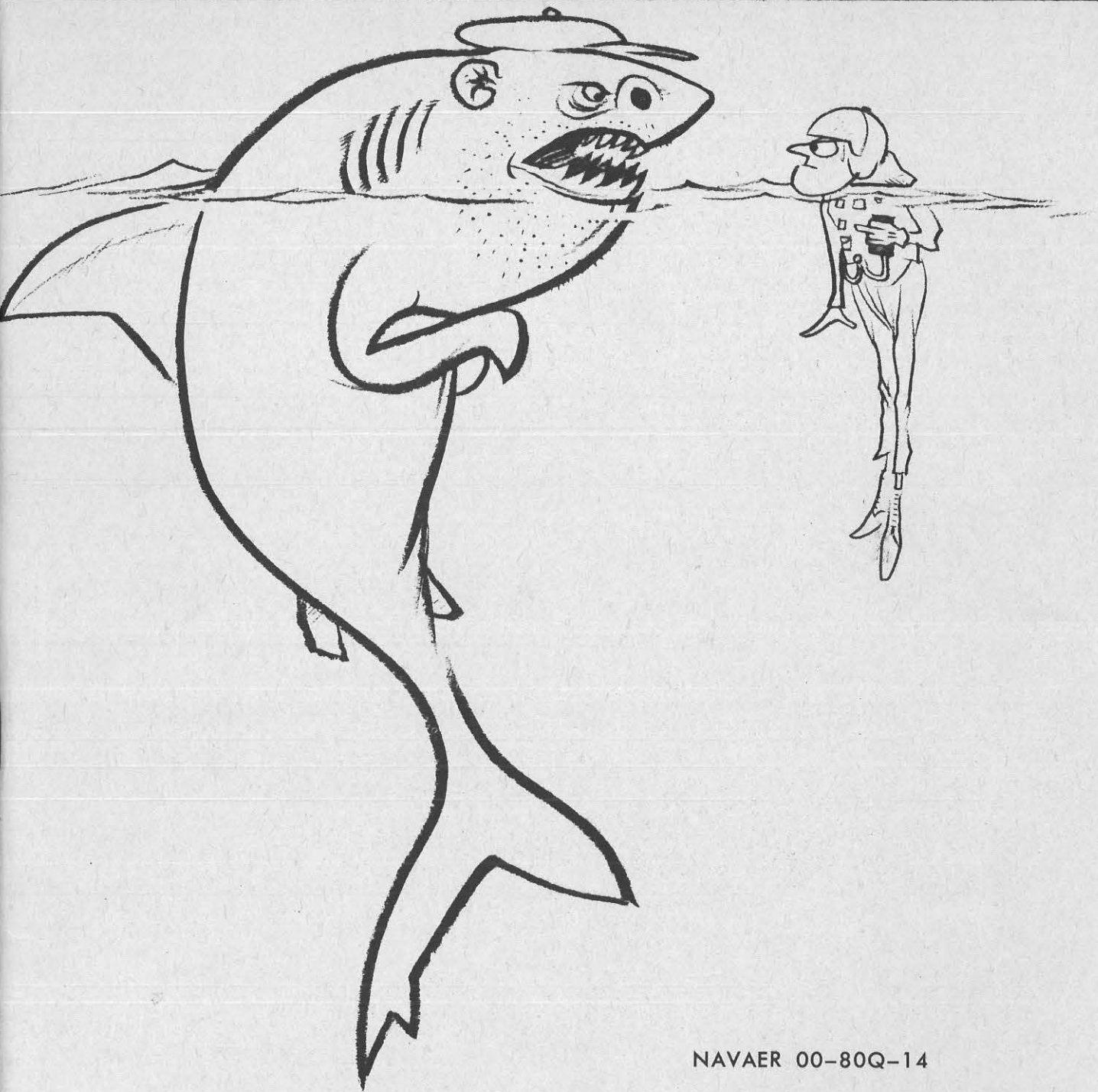
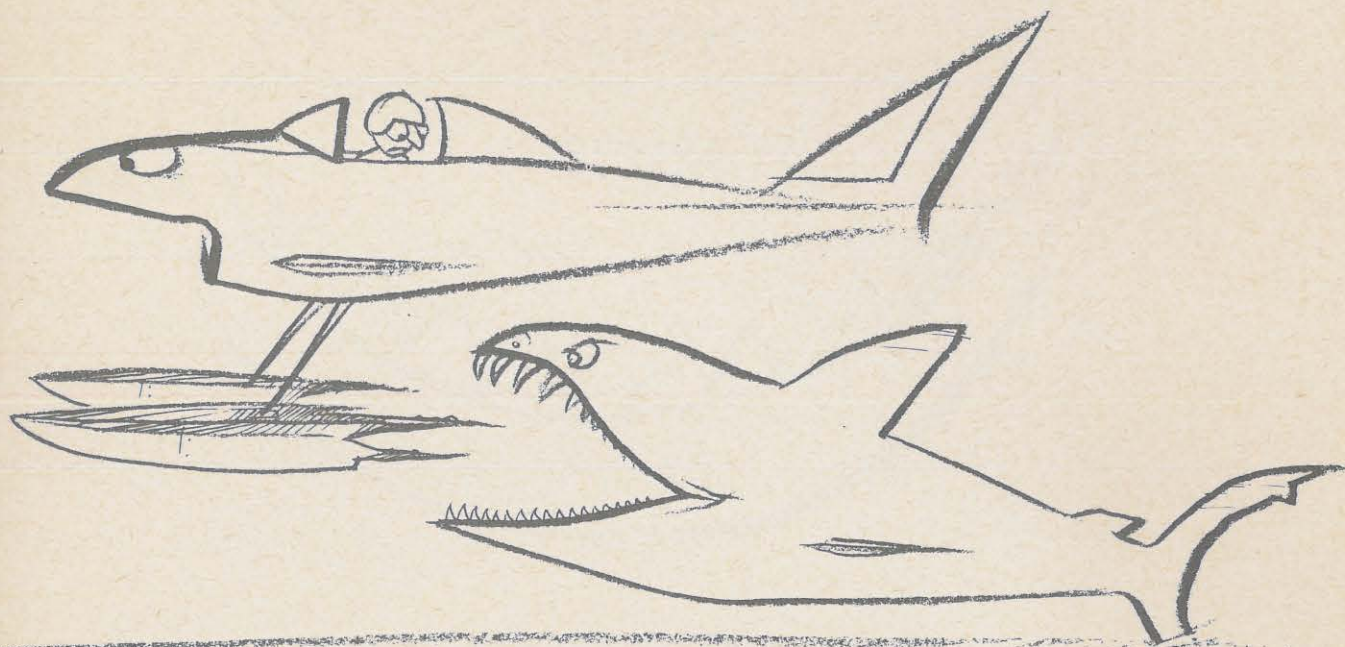


SHARK SENSE



NAVAER 00-80Q-14

SHARK SENSE

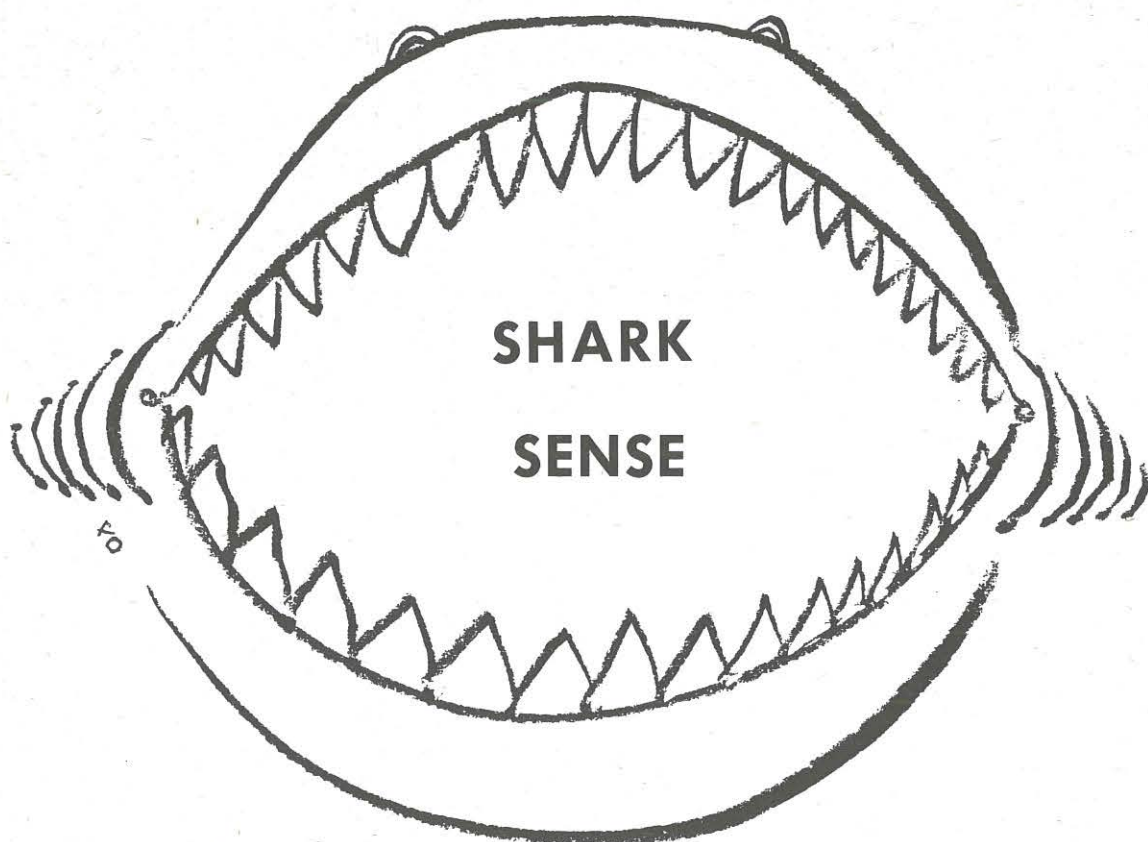


ISSUED BY THE AVIATION TRAINING DIVISION
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
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hmm!?

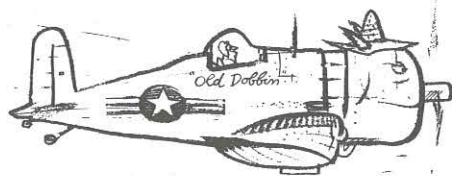




ONE OF THE ADVANTAGES of being a Navy-type flyer is that you often have an opportunity of aviating over large expanses of deep blue sea where there are no water towers, tall buildings, or clouds stuffed with rocks to bump into. There aren't many check points either, but then you can't have everything. Another little drawback, as the survival experts point out, is that if your airplane has to come down for reasons of its own and in opposition to your wishes, you are pretty certain to get wet.

Those of you who have been navigating from here to there with lengthy stretches of water in between are aware that the Navy's air-

planes don't get headstrong and willful very often. They seldom show unreasonable tendencies to descend unless you indicate that this is the desired maneuver.



Still, you went to that survival lecture; and you can be pretty sure the Navy doesn't maintain a survival school and several offices full of survival-equipment experts at BuAer just for chuckles.

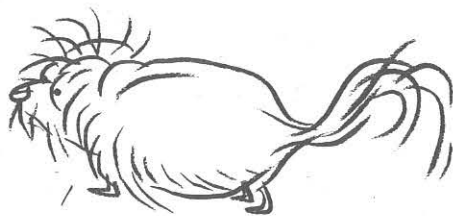
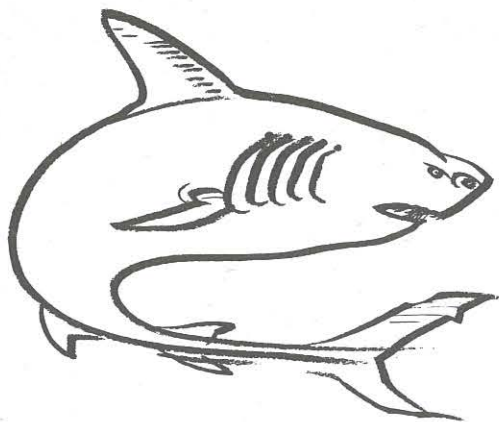
It *could* happen, as the insurance salesman so neatly puts it while handing you the pen and indicating the dotted line.

Therefore, heed the watchword of the Boy Scouts: *Semper Paratus*, which loosely translated means, "Don't leave your Mae West hanging in the ready room."



*Always
Aparatus!*

Once in the water, you are going to be floating around in the natural element of the shark. The shark is an elasmobranch, a distant cousin of the dogfish. But that's the only good thing you can say

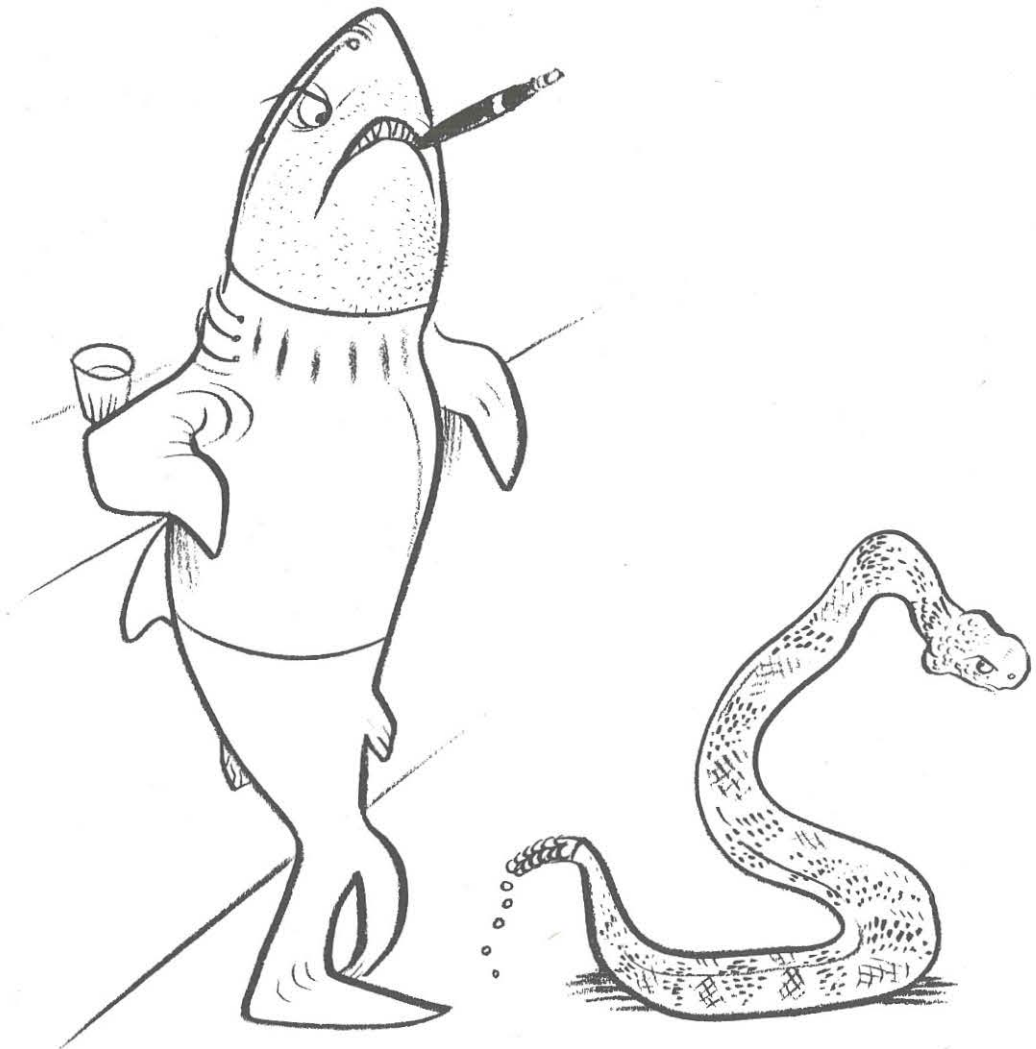


*No relative of
mine, thank you!*

about him. The shark is a mean, treacherous, hungry predator, which is why people hate him. People have been loathing sharks for as long as there have been people; and judging from the number of swimmers, fishermen, and some survivors who have been jumped by sharks, the feeling is mutual.

Actually, marine biologists say that sharks don't hate people; they haven't sense enough. But they sometimes act as if they did, so the effect is the same. Sharks have been known to attack men, women, and children, bags of garbage, sea gulls, swimming dogs, horses exercising in the surf, dead bodies, oars, boats, life rafts, and each other. And that's only a part of the list. One mutilated shark kept biting at detached pieces of himself. The severed head of a shark on the deck of a boat bit off the finger of a fisherman. A mortally wounded shark, apparently feeling no pain, kept making runs on a bait and eating until he sank to the bottom—dead. A delightful creature. In a

popularity contest with a rattlesnake, the rattler would win going away.



One shark man, an Australian who has been studying sharks for years, writes of the shark's sleek body shooting like a torpedo through the waves in pursuit of a school of fish. "Seen under such circumstances," he writes, "a shark compels admiration on account of its grace and strength, but also induces a feeling of loathing."

Even their best friends don't like them. Let's face it. The shark is not one of nature's noblemen.

YE GODS AND LITTLE FISHES

Well, where does that leave us? In view of the shark's clearly anti-social behavior patterns, it would appear to leave the unlucky survivor in a pretty kettle of elasmobranchii. There he is, so it would seem, cast away amid the denizens of the deep, helplessly treading water while squadrons of maneating tiger sharks (*Galeocerdo cuvier*) make high-side runs on him, neatly removing his appendages.

As we shall see a little later on, the picture is not nearly so dark. Sharks are stupid and changeable; and they have a hard time making up their one-cylinder minds what to do next. Moreover, the downed pilot has an ace in the hole, his shark chaser, a concoction brewed by a group of chemists and biologists who have made a big project in your behalf of finding out just the kind of chemical sharks hate most. The shark repellent is packaged so that, when the time comes, you can make yourself more sublimely obnoxious than the guy who cut you off in the traffic pattern. Obnoxious to the shark, that is. You'll remain popular with your friends, who prefer you as you are—alive.

The shark chaser is a flat, black cake packed in porous cotton that looks like a tea bag. When the bag is removed from its waterproof container, the stuff dissolves fast, surrounding you with a cloud of black dye mixed with copper acetate.

For some reason known only to sharks, the whole tribe of them dislikes the chemical copper acetate and can't stand black dye of the sort used in the chaser. When they come into contact with this mixture, sharks develop a powerful urge to go somewhere else. Call the chaser Nature's Way: it contains, not one, but two chemically proven ingredients which sharks *naturally* find offensive. First, it has been

observed that sharks hate the smell of decaying shark flesh; copper acetate gives off an odor similarly revolting (to sharks, that is—you won't mind it a bit). Second, sharks leave octopi, squids, sea hares, ink fish and other dye-squirting marine animals strictly alone; and the nigrosine dye used in the chaser lets you act the way an octopus does when sharks are around. Tests show that men surrounded by a cloud of shark chaser are studiously ignored by sharks, just as are the dye-squirting fish.

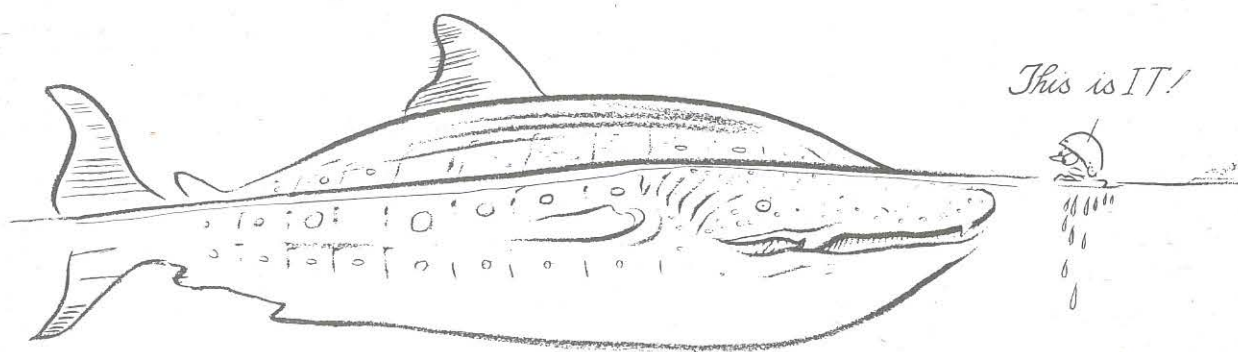


So the word on the shark chaser is that it's good stuff. All the U.S. services use it as well as those of Great Britain and Canada. The chaser has saved many a life.

The shark is still a tough customer, sometimes lashing himself into such a fury that he attacks everything in sight—oars, boats, other sharks, and unprotected people in the water. The smell of blood is a potent shark exciter, sometimes causing the shark to lose his mind and act, biologists say, as if he were suffering from violent schizophrenia.

Even if sharks were of a more tranquil temperament, most people would still prefer the normal human hazards of life—putting up a TV antenna on Saturday afternoon, flying an airplane, walking down the cellar steps in the dark—to the watery dangers of the squid and the octopus. So let's admit here and now that the man afloat in a life jacket in shark-infested water could be in for an unpleasant tour of duty. He does not make the best possible candidate for retirement at 65.

Consider these facts, though, before you put in for a transfer to the Oklahoma Shore Patrol. There are 250 or more species of sharks and only about 30 of these are considered maneaters. Moreover, there's some discussion among shark fanciers about whether some of the so-called maneaters really are. The vast majority of sharks are either too small, too slow, or too weak to hurt you, or they operate in waters so deep you'll never see them. A couple of shark types are almost friendly: the whale shark and the basking shark. Though these two species have a pretty good reputation for general docility, some mariners get the foaming fantods the first time they see one because these sharks are like something by Sam Goldwyn—stupendous. The whale shark is known to reach 45 feet in length and may attain 60. One of them, caught off Knight's Key, Florida, weighed more than 25,000 pounds. The basking shark is about 35 to 40 feet long. A thirty-footer weighs around 8,500 pounds.

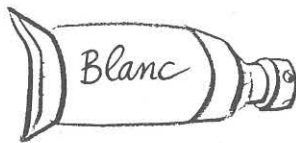


A few years ago, shark men were considerably upset when a whale shark taken near the Philippines was discovered to have in his stomach 47 buttons, three leather belts, seven leggings, and nine shoes. The first conclusion was that probably a man or two must have been in there also at one time or another and people were getting ready to add the whale shark to the list of known maneaters. Clearer heads prevailed, however. The undigested haberdashery, it was reasoned, could more logically be traced to the whale shark's technique of feeding. He and the basking shark operate somewhat like sea-going vacuum cleaners. They cruise along near the surface with mouth agape, sucking in any tidbits offered by the teeming ocean, including buttons, belts, and miscellaneous footwear. The water they take in this way is funneled out. Most of the food ingested by these monsters is plankton (small, single-cell plants and animals) and cruising fishes.

The whale shark is a slow mover. He might bump into you or swat you with his tail but he won't attack you. The basking shark, not exactly supersonic either, lives in both the Atlantic and the Pacific, and is a sight to see. Basking sharks operate in schools of as many as a hundred, and sometimes they move in line astern—one after the other, making a huge caravan that looks like a single immense twisting animal, with snout, backs and fins showing above the surface. Consequently some people think basking sharks are sea serpents.

Those sharks are the good guys, actually more numerous than the double-dyed villains. But let us not forget that plenty of the heavies are still running loose.

The dangerous great white,



the mako,



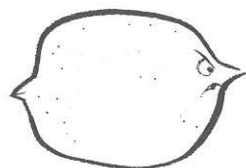
the tiger,



the blue,



the lemon,



the white tip,



and the hammerhead—

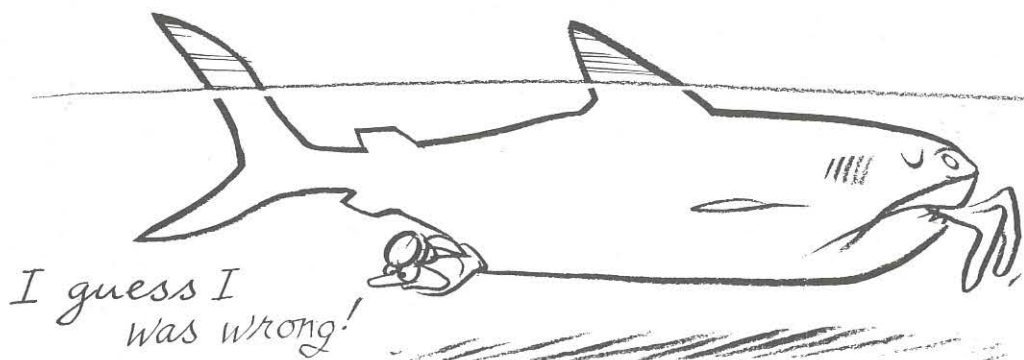


these are the sharks the experts *know* are mean as sin.

CHRISTMAS IN JULY

Despite a long and well documented history studded with countless instances of maiming, mayhem, and murder, these maneaters have been enjoying a strangely good press lately. It would appear from a reading of some recent magazine articles that we've been misunderstanding these tranquil fish all these years. In actual fact, some stories say, sharks are more afraid of men than vice versa. Maneaters are really cowards, we are told, who will bug out with great speed at the sound of a harsh word.

Mostly, it's some of the skin divers who've been putting out the word that sharks are pushovers. One of them wrote that he had played "chicken" with a tiger shark. When the shark swam at him, he swam at the shark. He said the shark chickened out every time and finally took off for parts unknown. When marine biologists hear such stories, they become visibly uncomfortable, shifting nervously in their chairs in the manner of a man who's just been told of someone "winning" a game of Russian roulette. The chicken-playing skin diver was just plain lucky, that's all. One snap of the shark's jaws could have relieved him of an arm, a leg, or a head. It has happened. So don't play "chicken" with sharks. You can't be sure they know the rules.



Shark debunkers hold that a shark will attack a man only if the shark is ravenously hungry or if the man is bleeding or helpless. Others say that sharks are no more dangerous than other large fish. Asked about this, men who have been studying sharks for many years, fishing for them, devising ways to repel them, and recording instances of shark attacks, comment that this is like speculating on whether Christmas falls in December. All you have to do is look at the record. Never count on a shark not attacking you. He may do it.

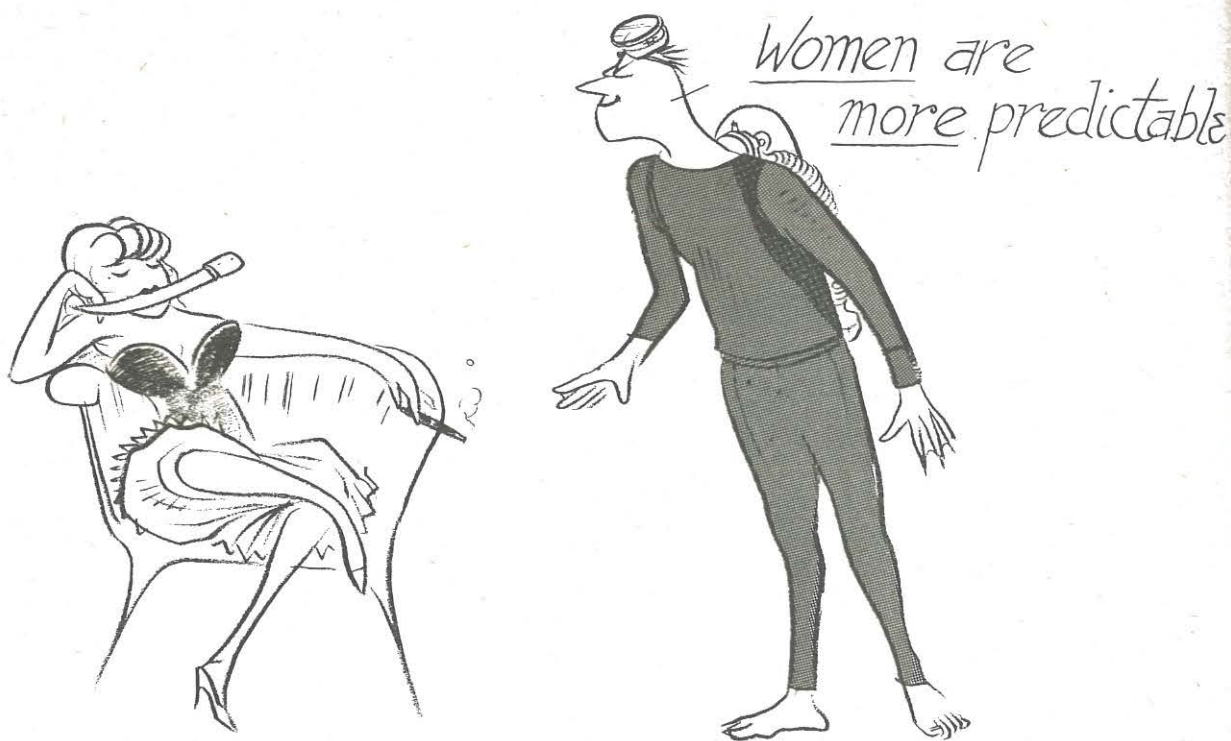
Nobody can flatly deny the words of the debunkers, because sharks are plain unpredictable. You might put on an aqualung, proceed, say,



to the middle of the Gulf of Mexico, dive in and play "chicken," tag, hide-and-go-seek, or mumblety peg with a couple of great white sharks and come home to write a magazine article about it. You might also survive a trip over Niagara Falls in a barrel, execute a split-S at 300 feet in a Beechcraft, or win an argument with your mother-in-law, *but don't count on it.*

Jacques Yves Cousteau, the celebrated skin diver who helped develop the aqualung, has had a good many meetings with sharks, some

of which were on the nightmarish side. He writes that his experience with sharks has led him to two conclusions: "The better acquainted we become with sharks, the less we know them; and one can never tell what a shark is going to do."

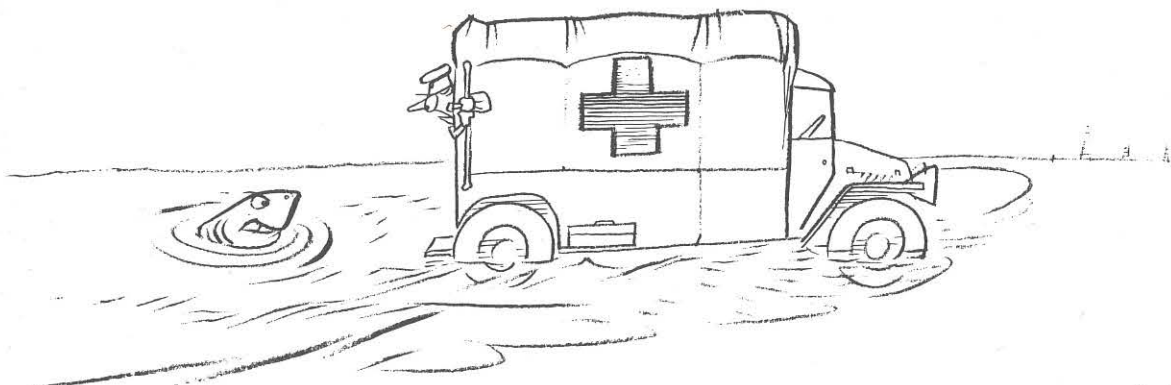


Once Cousteau ran into a shark under water and prepared to do battle to protect his life. To his surprise, the shark took one frightened look and swam away. Another time, he and his diving companion met two sharks that obviously had no intention at all of going away. The sharks, certainly interested and probably hungry, kept boring in persistently. The two divers dodged, made bubbles with their aqualungs, and yelled—to no avail. The sharks continued to make determined runs as the men backed away, desperately going to the surface from time to time to take bearings on their boat. They

finally made it, just before running out of air. When Cousteau and company were hauled aboard, the sharks were still with them.

UP THE CREEK

Though some people think sharks hang out only along sea coasts and in the open sea, the fact is that certain sharks don't seem to care much where they go. *Carcharhinid* sharks, maneaters all, cruise throughout the open oceans to the 40th parallel, but also go nosing about brackish rivers and into fresh waters. Some of them live in fresh water exclusively, one kind having found a home in Lake Nicaragua, considerably reducing the value of that body of water as a swimming and boating paradise. In the Ganges River, pilgrims following the rituals of their sacred bathing have been attacked. In the Karun River, 90 miles from the Persian Gulf, sharks about four feet long have attacked men, women and children, biting them on the ankles and calves in knee-deep water. One of the victims was a British ambulance driver



Bring your own ambulance if you don't believe they
are tough, sneaky & shifty!

who had driven his vehicle in a foot of water to wash it. The shark pulled him off balance and in the fight that followed almost tore off

the driver's right leg, stripped the tissues from his right arm, and shredded his left hand and forearm.

Shark attacks are sometimes reported by the attackees, people who invariably appear, first, to lack that cool detachment so necessary for clear scientific observation and, second, to be more interested in escaping than in noticing how long the shark was or whether he was blue, grey or had spots. Even witnesses safe in a boat or ashore are prone to be something less than totally coherent. In short, people, who've had anything to do with ravening sharks are usually not reliable reporters

YIPES!

There were
lots! &
ALL monsters



and a red &
green one
snarled at me!

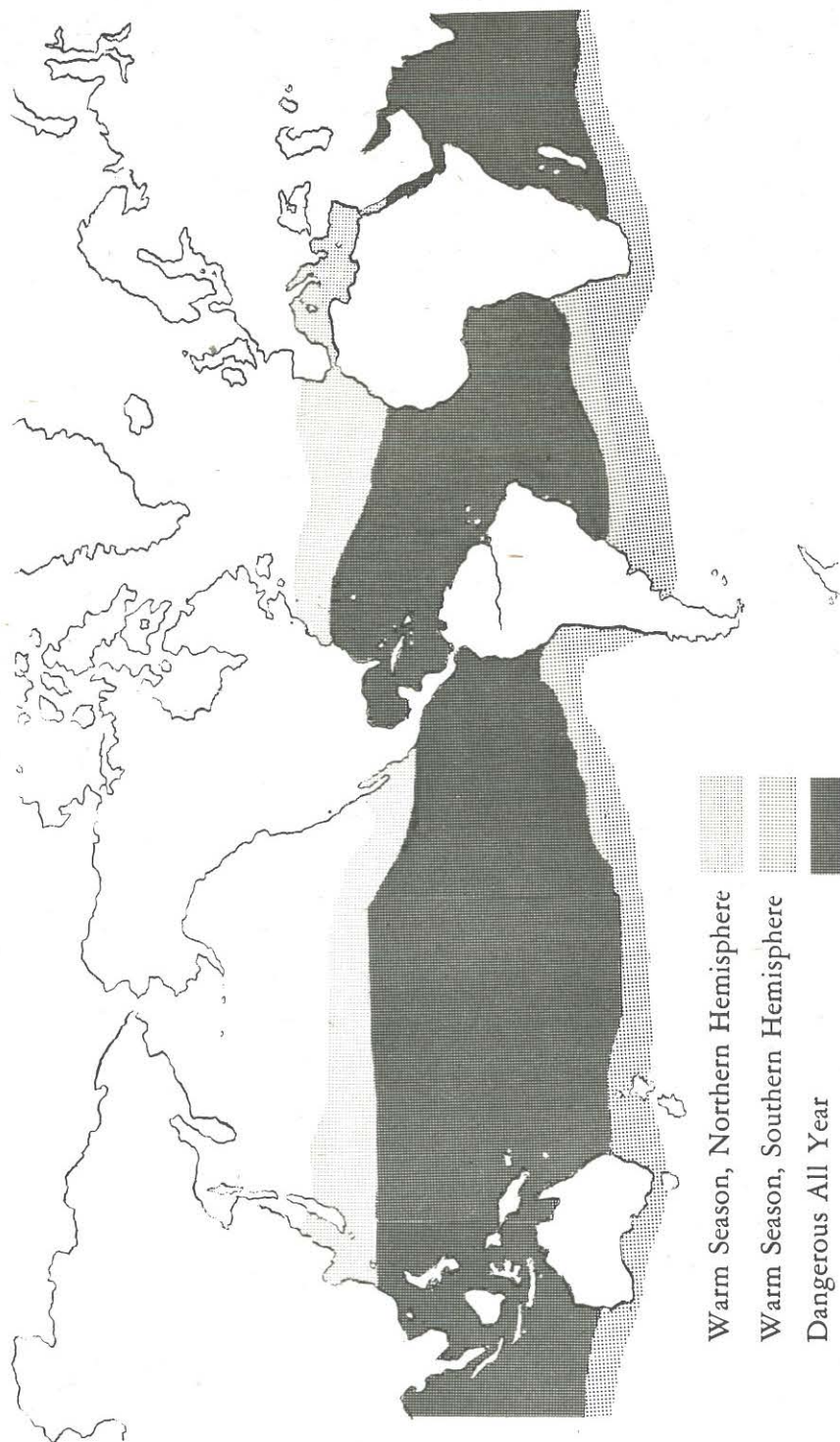
of what they've seen. Therefore, many of the shark stories that come in are incomplete and sometimes conflicting. Even so, marine biologists have spent years compiling whatever facts there are available, and they know pretty well where certain species of sharks are most of the time and how they act under some combinations of circumstances.

Now that shark studies are being conducted on a much broader scale than ever before, the experts feel it's possible to pin down a great deal more about shark behavior. The information they dig up



will be useful to all seafarers, including naval aviators, and will save the fishing industry a tidy annual sum. Fisherfolk go to all the trouble of loading up a big net with fat, expensive fish when along comes a marauding shark. He slashes the net, a month's salary in fish takes off for the hills, and the fishermen are left with nothing to show for a day's work. That kind of thing can mount up.

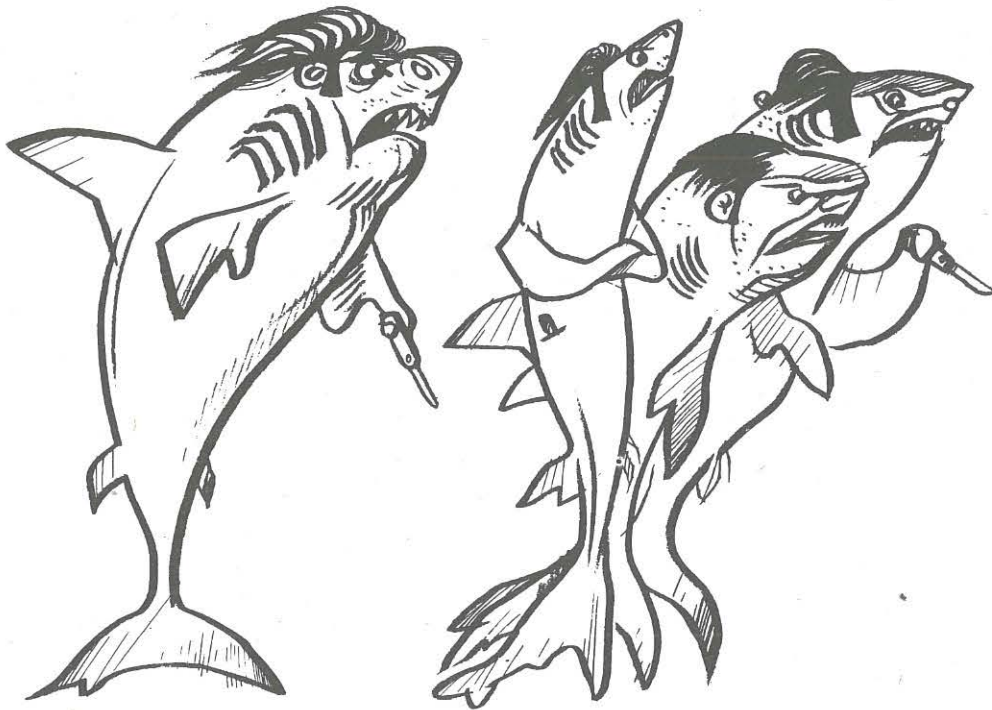
Most shark men agree that the shark danger is greatest in tropical and semi-tropical areas, a conclusion borne out by the experiences of U.S. airmen downed in the Pacific during World War II. Our lads reported that sharks frequently came to look them over about a half hour after they had entered the water. As the map on the next page shows, most attacks have occurred between 30 degrees north and 30 degrees south of the equator. Water temperature is also an important factor since



most encounters have taken place in water around 65 or 80 degrees Fahrenheit or warmer. Again, don't count on it. Men have been killed by sharks in water colder than 60 degrees.

RUGGED INDIVIDUALIST

Unlike some other seafaring characters you may have met, the man-eating shark almost never goes by the book. He is a galloping non-conformist who flunked all his courses in Life Adjustment in school because he never learned How To Get Along With Others. True, he sometimes travels in a mob, but he pays no attention to Doctrine or



Standard Operating Procedure, preferring to make up his tactics on the spur of the moment. He is a kind of sub-aquatic maverick who specializes in doing the unexpected. When you think those giant jaws are

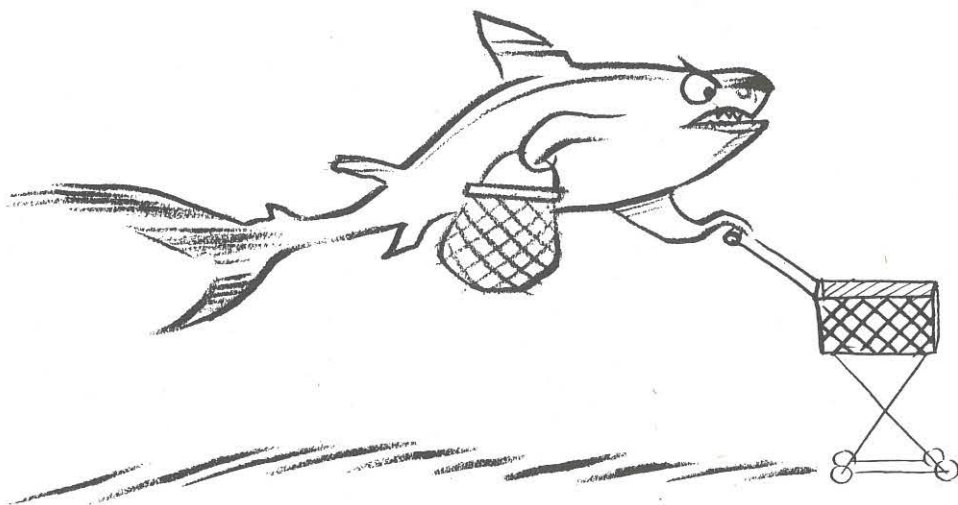
about to open to divest you of your life or treasured property, they grin at you instead; and off scuttles the shark, joyously gamboling amid bebies of astonished sea anemones. On the other hand, try kicking contemptuously at a friendly *Galeocerdo cuvier*, and you may draw back a nub.

To put it another way:

*How strange, the tiger of the sea;
He runs from you and dines on me.*

Even the mavericks must have a certain method of operation, however odd-ball, and so do sharks. Here are a few of the ways sharks sometimes act.

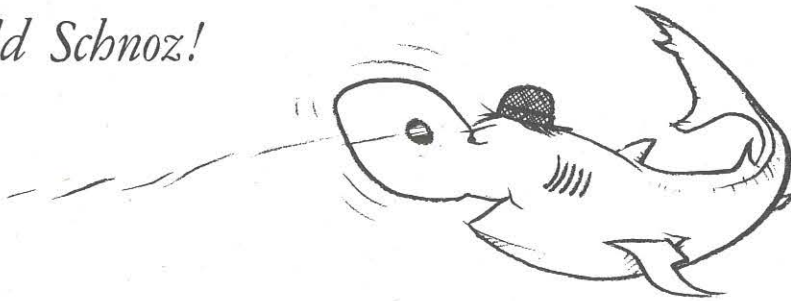
By nature, the predatory shark is always on the make, roving constantly for targets of opportunity. He eats practically all the time,



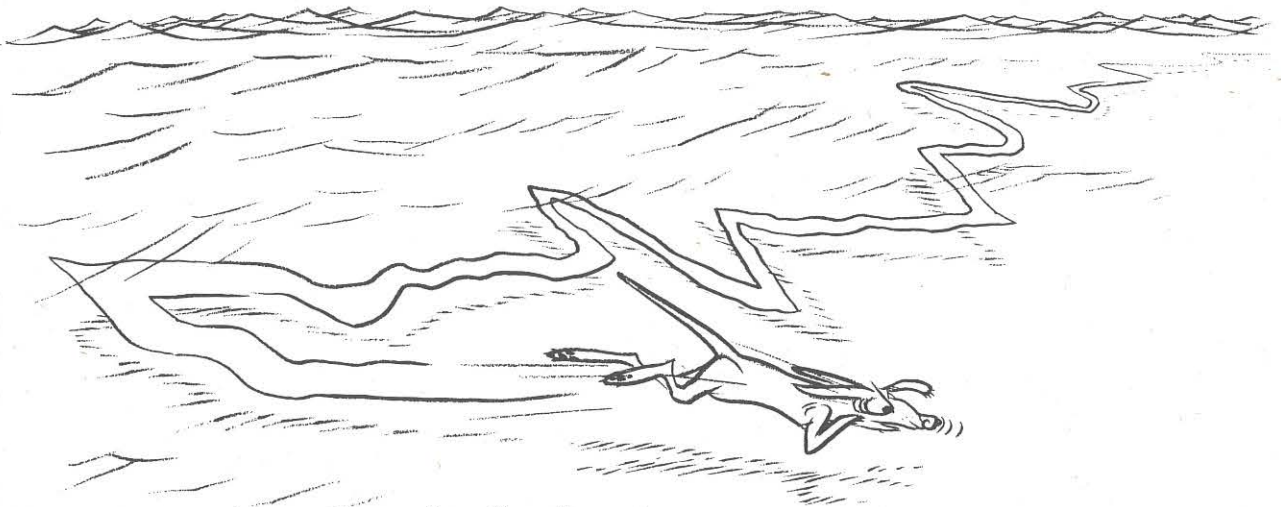
sometimes coming close to shore at night, when his appetite seems to increase. Nobody knows exactly how he homes on a target. Some authorities think his sense of vision and hearing are not important in his search for food. They believe that sharks have unique sense organs

which pick up certain movements and vibrations—or possibly some chemical trace given off by their prey, a kind of sharkish sonar. Nobody has any doubts about the keenness of the shark's smeller; in fact, he has been called "the swimming nose." The part of his brain connected

Old Schnoz!

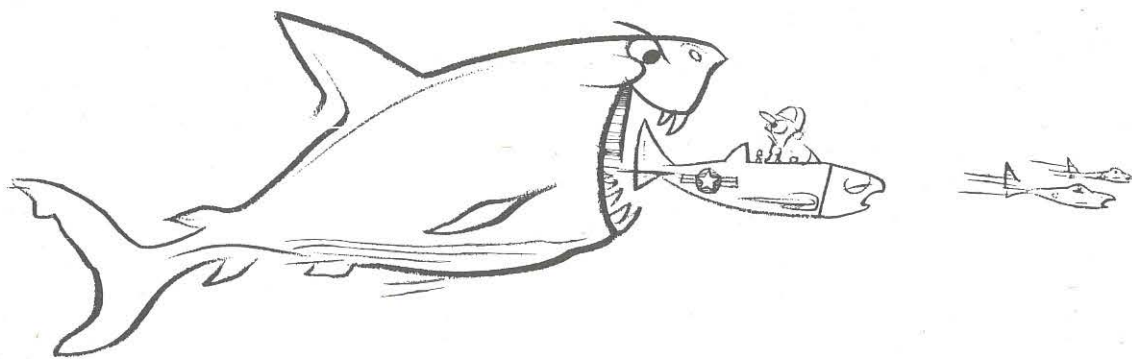


with his nose, the olfactory lobes, are enormous, proportionately bigger in many sharks than the thinking part of a man's brain. If you've ever seen a roving hound alertly move along a zigzag trail as he attempts to pick up a scent, you know how a freebooting shark operates.



Sometimes a school of sharks will swim patiently along, waiting, until one shark in a burst of frenzied activity locks on to a spoor. Then when the "pathfinder" shoots ahead to follow it, the whole gang goes with him in a threshing, desperate rush, sometimes attacking each other. Mobs of frantic sharks appear out of a calm sea and churn the water to a froth when fish or other food are thrown overboard.

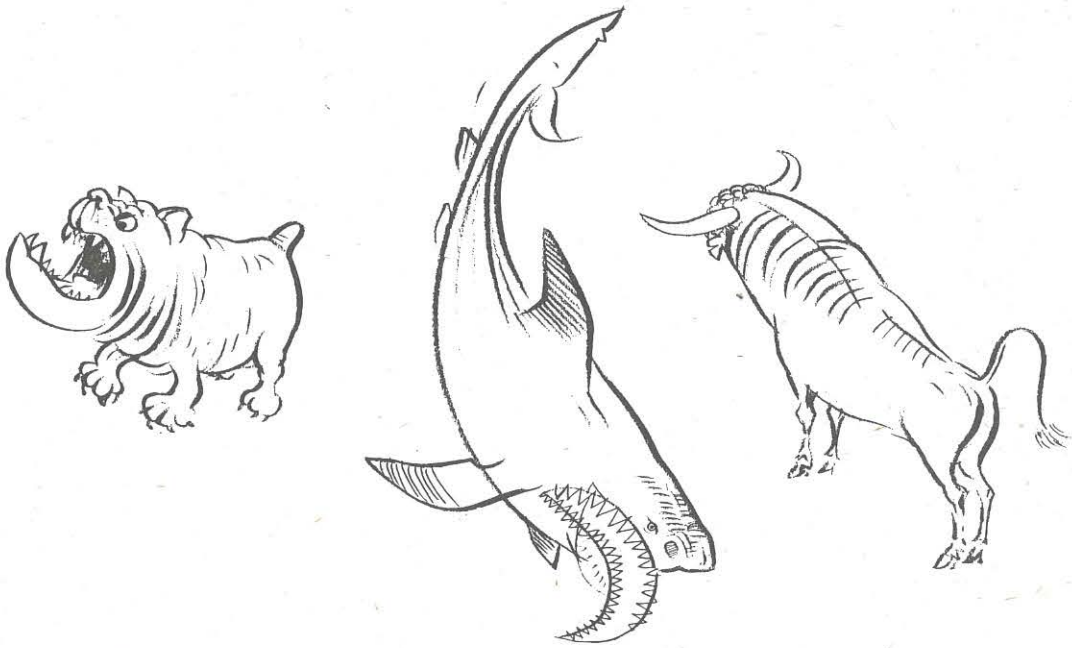
Sharks are death on stragglers, perhaps working on the theory that tail-end Charleys are the weakest of the group. Once he has attacked



an individual, the shark frequently singles him out for repeated attacks, ignoring anybody else around, even rescuers. This curious behavior was demonstrated in 1952 when a 17-year-old boy was attacked while swimming off the coast of California. Five men swam to the boy's aid after he had been bitten. They put him on an inflated inner tube and began to push him toward shore, several hundred yards away. The marauding shark slowly and deliberately circled the group as they made their way through the water. He never threatened or touched the rescuers, but he attacked once again, bulling through the group of men and fatally biting the boy.

From this you might assume that it is relatively safe to go to the rescue of a shark victim. But again, the shark is unpredictable. Don't count on anything.

The shark's bite is frequently moon-shaped and deep. A fifteen-foot shark has been known to scoop out ten or fifteen pounds of whale blubber with each bite, his teeth first cutting through the leathery inch-thick whale hide. Commonly shark attacks against men are directed at the legs and buttocks. Usually bites are clean and deep; the reason for high fatalities is that an artery is often severed and the victim dies from loss of blood and shock.



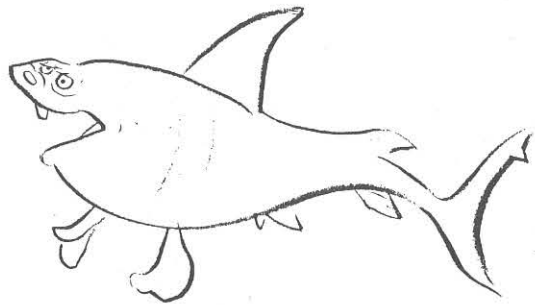
Stay clear of English bulls, Sharks & Spanish bulls!

But that is not always the pattern either. Capt. Jonathan Brown, the pilot of an Air Force C-124 that went down near Johnston Island in 1958, was not subject to the usual slashing attack. Brown was trying to get aboard a life raft when a shark took him by the shoulder, shook him like a terrier, and tried to pull him back into the water. In other words, the shark grabbed him and *held on*.

"We were pounding the water, yelling, thrashing, and kicking around," he said, "I was beating the shark on the head with my fist and he finally let go." Pilot and crew were picked up later, and Brown was treated for shark bite and exposure. He recovered.

Another non-slasher was met by a native Thousand Island pearl diver who led with his head, a tactic which probably saved his life. This man was walking on the bottom looking for pearl shells when he and a fifteen-foot shark spotted each other at the same time. There were only six feet between them and the shark attacked instantly; so the diver had no chance to escape. He met the shark head on. As he put it, "The shark felt it was too strong to swallow my head, and put his teeth around my neck." But by this time the diver had got his fingers into the shark's eyes, trying to gouge them out. The shark couldn't take it and withdrew while the diver made it to the surface and was pulled into his boat. He lived, but with bad scars on his chin and neck.

Nobody knows exactly what makes a shark attack a man. How a shark acts depends upon a long list of imponderables: how old he is, what he last ate, whether it's the courting season, the temperature of



*They're the Idiot Boys
of the Deep*

the water, the time of day or night, whether or not he's alone, and certain other reasons clear only to sharks. Even if all the factors were known, it would take a UNIVAC to shuffle them around and come up with a Yes or No. It is fairly certain, though, that once a shark has attacked a man he often attacks again. This is surprising—perhaps a clue to the level of the shark's intelligence—because human skin is extremely indigestible to the shark. Well, what's a little heartburn? Sharks have been known to proceed about their business with harpoons through the head and deep spear gashes on the body.

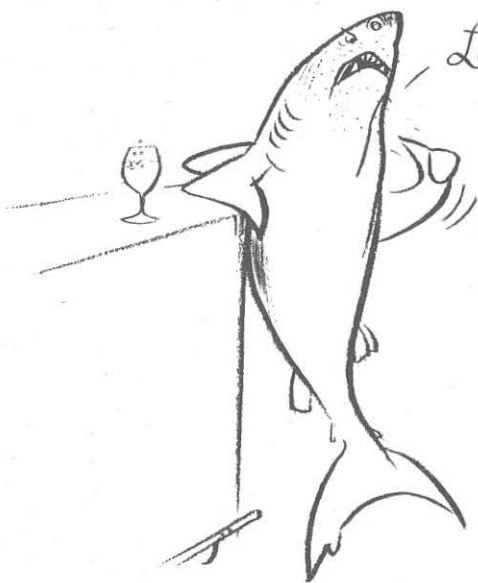
GREETINGS, NEWCOMER

The shark swimming around in our oceans is from 'way back. He antedates just about anybody or anything you care to name. There were sharks in the seas when men were cousins to the tadpoles; and sharks were around when men got the idea of walking on their hind legs exclusively. Some people think that men have improved since those days when the ladies got a kick out of being dragged around by the hair, but nobody claims the shark has. He's just as ornery as ever and looks and acts about the same way he did three hundred million years ago. Maybe that's been the trouble between men and sharks down through the ages; the shark regards us as rank newcomers who have no business messing about in his oceans. After all, he's been what he is—Tiburón, the tiger of the sea—for longer than we've been *Homo sapiens*. Since he has very little equipment for confusing himself with thought, it could be he will be around after we've all gone.

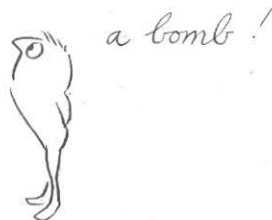
In spite of their orneriness, sharks are considered a very "successful" group by biologists. Successful because they were so well planned back there when dinosaurs were having things pretty much their own way that very little evolution since then has seemed necessary. Sharks are nearly perfect in structure, so well adapted to their mission that

no countermeasures have been developed that could challenge their capability. The equipment works, so why change it?

Shark, MK-1, designed and manufactured in pre-history; no modifications indicated; none made.



*Look, Bud, I've got it made....
what have you got?!*



Only the PBY, the F4U, and the AD have even comparable records.

The shark, obviously, is one hunter that success won't spoil.

People have been complaining about sharks for a long time. The ancient Greeks had one or two unkind words to say about them and during the great voyages of exploration, the world-travelers balefully noted the presence of sharks. One of the earliest records of a shark attack comes from a crewman on a ship plying between Portugal and India, back in 1580. This sailor wrote:

"When a man fell from our ship into the sea during a strong wind, so that we could not wait for him or come to his rescue, we threw out to him a wooden block on a rope. This he finally managed to grasp. But when our crew drew this block with the man toward the ship and had him within half the carrying distance of a musket

shot, there appeared from below the surface of the sea a large monster, called Tiburon; it rushed on the man and tore him to pieces before our very eyes. That surely was a grievous death."

Solomon Islanders worship sharks, probably more because sharks are strong, graceful, and terrible than because they come from an old, old family. The islanders believe that some men turn into sharks after they die and remain friendly to their old colleagues back in the village. Other sharks which aren't incarnations of anybody in particular are considered "wild," the ones who chew up swimmers and fishermen. A shark who was once a man would never do such a thing. Still, the islanders like to keep on the good side of even the man-sharks by praying considerably and setting up altars to them. This is supposed to afford protection.

Native people around the Red Sea have also affected a kind of rapport with their local sharks. Divers in that area call the sharks by friendly names so that any evil spirits inhabiting the sharks won't get mad at them. Well, don't laugh. Remember the time you said, "Nice doggie," when that 200-pound *doberhund panzer* sniffed your leg and curled his lip.

BY ANY OTHER NAME

If you encounter a shark in the drink, you won't derive much comfort from knowing his name. It won't help you professionally or any other way to be able to spot, say, a mako shark by the undulation of his dorsal fin from a distance of 50 yards. That's why Shark Identification does not loom large in the curriculum of the Naval War College. Except for the hammerhead, most sharks look pretty much alike anyway. Some pilots who have viewed sharks from the vantage point of a life raft skidding down a swell agree with the sentiments

of the following sonnet:

*His name escapes me to this day,
But was I glad when he went away!*

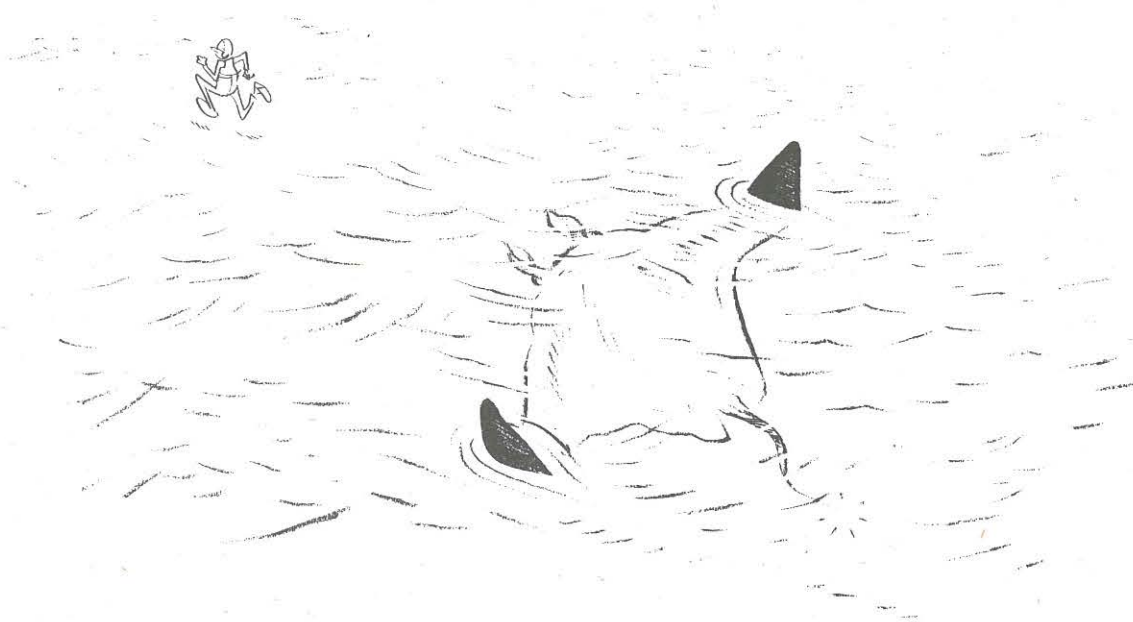
Knowing them does not make them any more lovable, but a nodding acquaintance with some of the more common misanthropes of the tribe will keep you from getting fidgety should you encounter a large tuna or a harmless basking or whale shark. No cause for alarm, either, if you run across a nurse shark. This benevolent citizen—whose fin nevertheless cuts quite ominously through the water—has probably scared more people accidentally than Alfred Hitchcock has on purpose. Central Casting in Hollywood often calls upon him to play stand-in for more ferocious types. The music comes up mournful and menacing, and the maneating tiger shark (compellingly enacted by a placid nurse) slashes through the spindrift while the castaway lady, tastefully clad in a hand-towel, bites the back of her hand.

Porpoises, the traditional friends of sailors, have scared a good many survivors who have mistaken them for sharks. Well, unless you know that porpoises are harmless to men, a school of them blowing and moaning as they break the surface, *can* be a mite unnerving. Just bear in mind that porpoises and sharks are deadly enemies; spot a school



of porpoises and you can be pretty sure there are no sharks about. Porpoises swim by moving their horizontal tail fins up and down; sharks move their vertical tail fins from side to side. What's more, porpoises usually go around in schools; the shark frequently operates as a lone wolf.

You might also confuse with a shark the giant ray or manta, a fish that turns up in tropical waters. A swimming ray curls up the tips of his two fins. When seen from the surface of the sea, those fins look a little like the dorsal fins of two sharks swimming side by

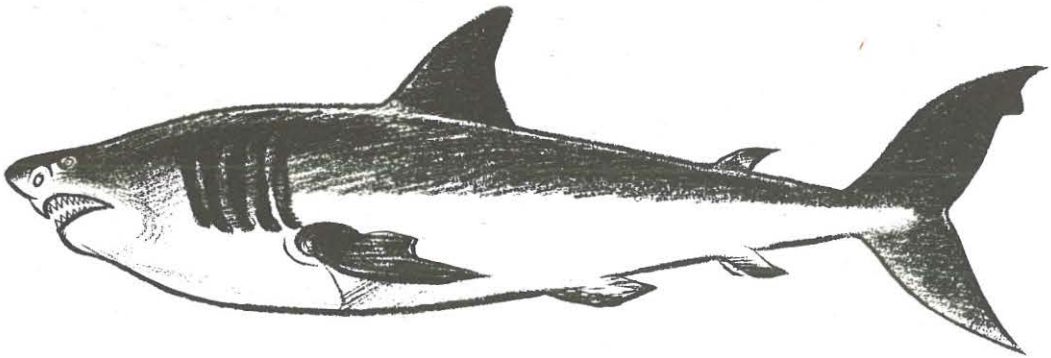


side, but you *can* tell the difference. If the two fins disappear at the same time, you're dealing with a ray. He's harmless in deep water but dangerous if you step on him in the shallows.

THE VILLAINS

Here are the sharks you should watch with more than calm indifference if you ever meet them at sea.

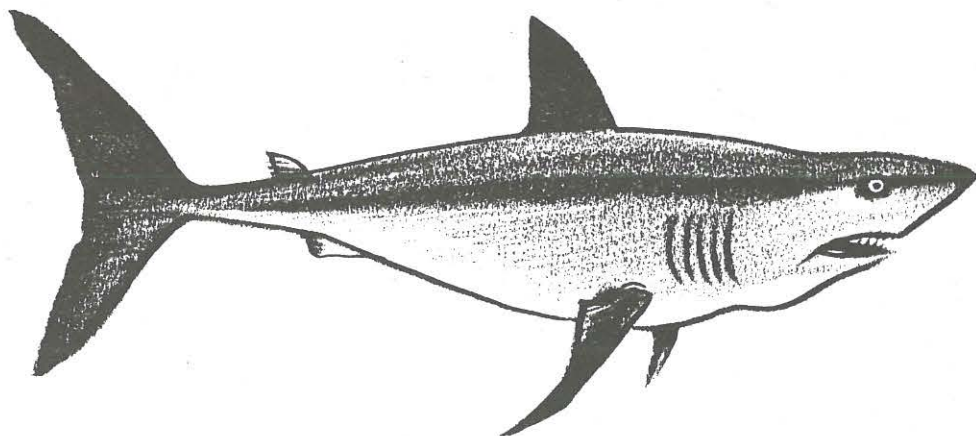
The great white shark, one of the worst of the maneaters, plays



for keeps. Heavily built, fast and quick in his swimming and maneuvering, he ranges the tropic and temperate oceans of the world, has been known to attack boats, and at least three times in this century has viciously gone after swimmers along the U.S. coasts. A whole Newfoundland dog, complete with collar, was found in the stomach of a white.

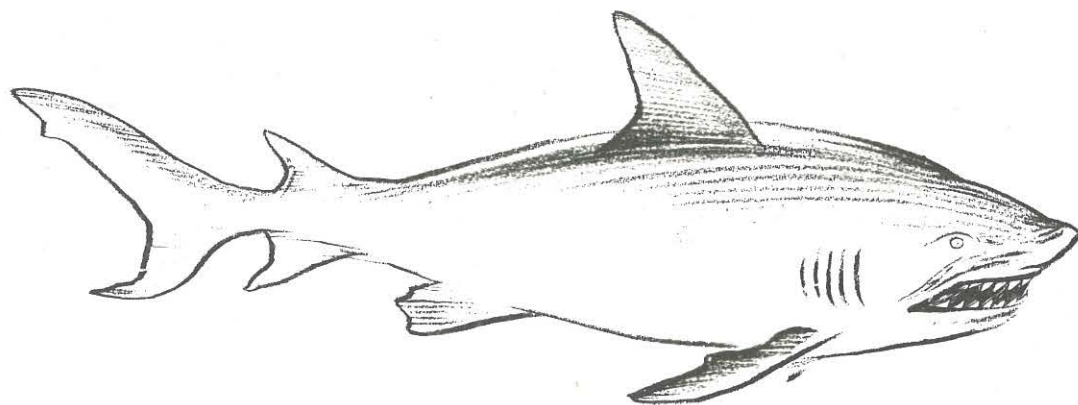
The white shark is one of the species responsible for making swimming in some Australian waters a sport which many people would just as soon leave to the Australians. Throughout the summer season, from October to April, people and sharks at Australian beaches intermingle rather more closely than at other beaches. Great crowds of people want to go swimming and mobs of sharks want to come close inshore to chase salmon and other fish. The result is that from time to time the sharks attack the people. Swimmers have been taken at various depths, some of them very close to the beach. More than 80 percent of the attacks are fatal. The Australians have put up mesh nets at some beaches to keep out sharks, they have organized first-class swimmers into shark patrols to warn bathers, and at some beaches they fly light airplanes overhead from which streamers are dropped when sharks are sighted. Still the attacks go on, even in rivers, and upon fishermen who dangle legs or arms overboard.

A close kinsman of our great white friend is the mako. Like his



cousins, he is large, savage and pretty numerous. With a hook in him, he is a spectacular jumper; so he is pursued considerably by game fishermen.

Another group of sharks with a bad reputation is the "requiem" family. Nobody seems to know where the name came from, though most authorities agree, in view of the unfriendly disposition of the whole tribe, on its appropriateness. The tiger is a requiem shark, big,

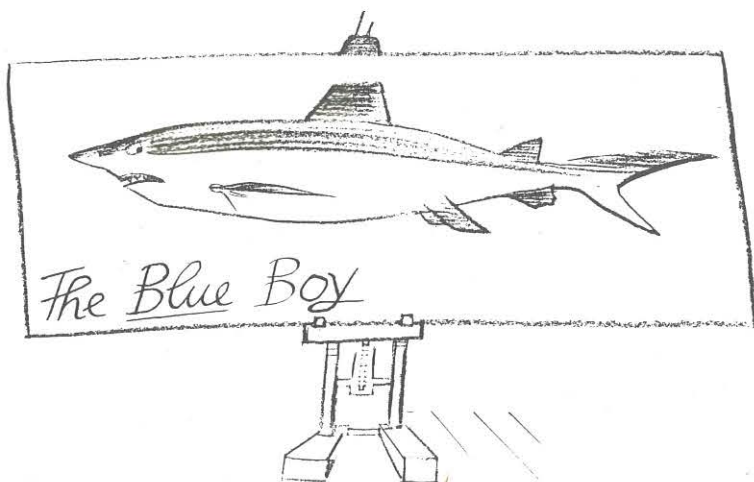


mean, and feared all over the world. Australian pearl divers consider him the most vicious of all, and natives of the West Indies dislike

him intensely. He is common in the Gulf of Mexico and off the coasts of Florida. He sometimes ranges as far north as Cape Lookout. The tiger probably exposes his glittering personality to people more than other sharks do because he likes to come close to shore and mingle. He does this not because he's a sociable type but because he finds plenty of food near the shore. The tiger eats garbage, dead fish and all kinds of junk that people throw into the water. He chases fish into shallow water, hangs around docks, fishing boats, and ships at anchor. All sharks are meat eaters, most of them preferring fresh meat, but the tiger is less choosy. His diet is indiscriminate; his appetite, enormous. One tiger was found to contain sting rays (including poisonous spines); great chunks of sharks, including other tigers; crabs, birds, sea turtles, spiny lobsters, lumps of coal and tin cans.

The tiger looks for the easy meal—small fish, big fish caught on a fisherman's hook, sick fish, dead fish, and so on. But the tiger is also a fighter, turning cannibal if his pals rub him the wrong way.

The lemon white-tip and the blue sharks are also members of the requiem family. The lemon is like the tiger, a scavenging predator. The blue is the shark traditionally singled out by sailors as the most



*And the
rest are
drab GREY
or BROWN!*



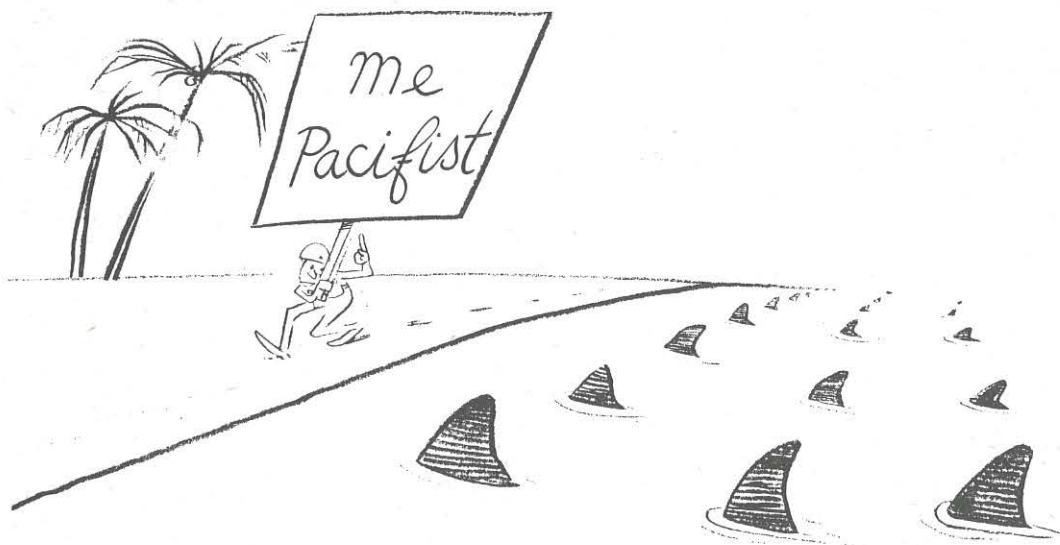
hated of all, despite the fact that nobody can prove conclusively that he *is* a maneater. Anyway, he's interested in men. During World War II, this is the boy that liked to while away his time circling life rafts and occasionally scraping them with his sandpaper hide. You can spot a blue more easily than any other type. He has a brilliant blue back and a snow-white belly. Most other sharks are drab grey or brown.

"SO THERE I WAS . . ."

Okay, now we know something about the shark. Let's take a look at what happens when through no fault of your own you find yourself more or less immersed in his ocean. First, here are a couple of things *not* to do. If you're thinking about fighting and killing the shark, don't; you're 'way overmatched. Joe Louis, speaking of another form of combat, puts it this way: "When a man that punches gets in there with a man that can't punch, the man that can't punch he better be awful fancy." The ocean-going shark has a much bigger punch than you have and is a real Fancy Dan when it comes to foot-work. He's usually bigger and certainly stronger than you and he's in his home arena. This is *his* game. Chances are 100 to 1 that you can't beat him at it. Those shark fighters you may have read about who go after sharks with nothing but knives are rarer than old, bold pilots.

Never heard of shark fighters? Here's how one of them, Wallace Caswell, Jr., billed as Tarzan of the Sea, operates. He dives, swims under the shark and strikes upward with his knife, aiming for liver and gall bladder. The shark turns and charges. Caswell puts his knife in his mouth and meets the charge by catching the shark by the nose with both hands. He holds his arms stiff, and the shark's jaw snaps within a few inches of his body. The shark then runs over Caswell, continuing his charge. As he passes, Caswell disembowels him with one deep slash. At this point the shark, it is fervently expected, will die.

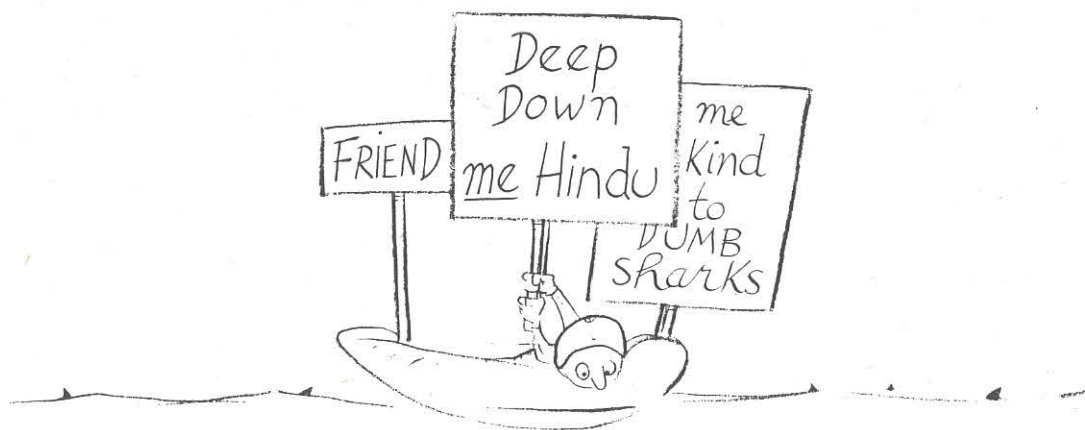
In spite of being an old pro at this particular recreation, Caswell carries many scars and a silver plate in his head to show that even under the best conditions killing sharks doesn't always go exactly as planned. So don't try to muscle in on the shark-fighting dodge. The idea is *not* to fight, bloodying up the ocean and attracting all



the shark's friends and relations, but *to survive*—to evade and escape. There's only one exception to this. If everything else fails and worse comes to worst, you will fight in any way you can. But, as you will see as we go along, things don't often get that bad.

Another "don't" is based on the sharks-are-pushovers scuttlebutt that's been making the rounds. Here's the word. Some skin divers make out pretty well in their encounters with sharks because, with their heads submerged and their eyes goggled, they can see the shark and dodge him, discouraging the shark so that he goes away. What's more, Cousteau says it is true that the shark sometimes takes a long time looking over a submerged man. All well and good, but this does not mean a fellow can jump out of his life raft or take off his life jacket to go under water for a game of dodgem. In the first place, he needs his life jacket; and if he has a life raft, he's far safer in it

than he could possibly be in the water. Besides, the average man



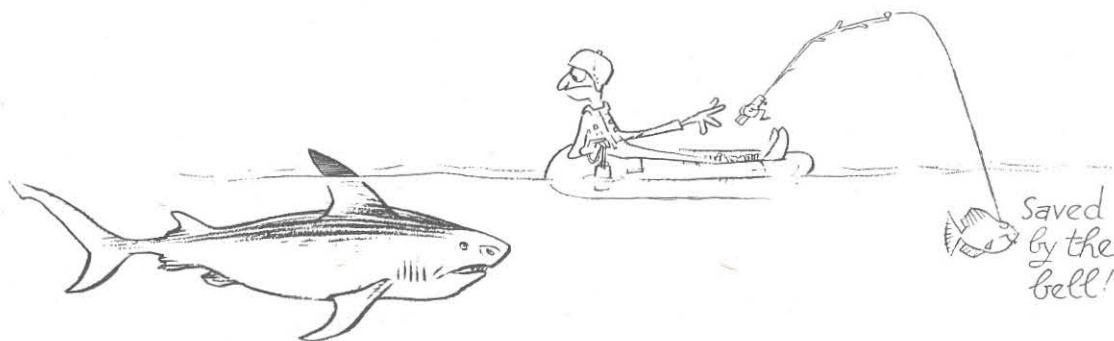
under water without an aqualung can't dodge for long. Chances are, he'll drown if the shark doesn't get him first. The clincher is that, submerged, he can't see worth a lick without underwater goggles. He may think he can, but the refraction index of the water fouls up the vision. If he sees the shark at all, it will be only as a distorted, big black blur.

If you go down at sea, your mental attitude toward sharks is important. Apprehensive? Of course. After all, you were probably a trifle keyed up the first time you soloed. No harm at all: makes the adrenalin flow and lends sparkle to the eye. Alertness is fine; panic is for kids. Remember that sharks are curious, cowardly, and stupid. If



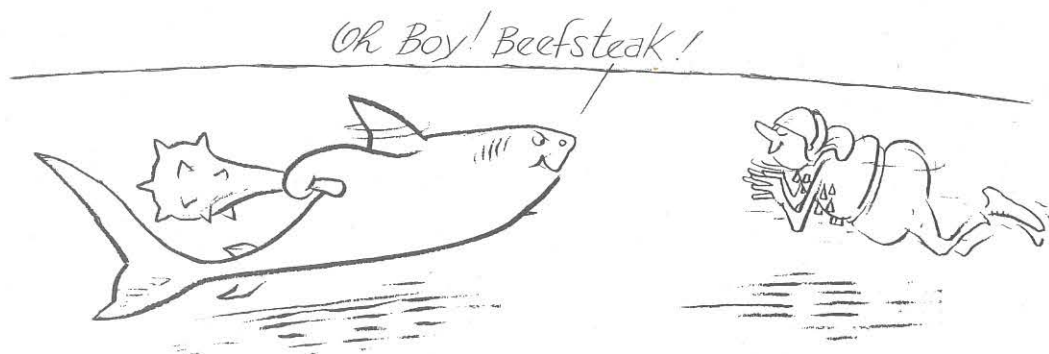
they come to look you over, the impulse that brought them may be only nosiness. They frequently do not attack. When you get squared away in the water, locate your approximate position in your mind. You may *not* be in an area in which sharks are most numerous. (Remember what the map told you.) If you're not, the chances are good you'll be picked up without ever sighting a shark and can rest easy. If you have a life raft, get into it quickly. And don't dangle your feet overboard.

There have been reports of sharks circling rafts for days, giving the occupants a decidedly bad time. This happens rarely and the fact that we know about these incidents shows that the raftees survived. You're pretty safe on a raft actually. Often, sharks merely take a look—and, after a while, depart. You need not use your shark chaser unless the creatures start making runs on your raft or otherwise pose a positive threat. If sharks are around, don't do any fishing. If you have a fish on a hook and sharks show up, let the fish go. Do not attract sharks by throwing overboard any kind of waste.



Now let's suppose your sojourn at sea is to be a strictly life-vest affair. The commotion caused by your dropping into the water and freeing your 'chute will very likely scare away all fish, including sharks, for the time being. If you are wounded, staunch the flow of blood as well as you can. This will keep shark-attracting blood out

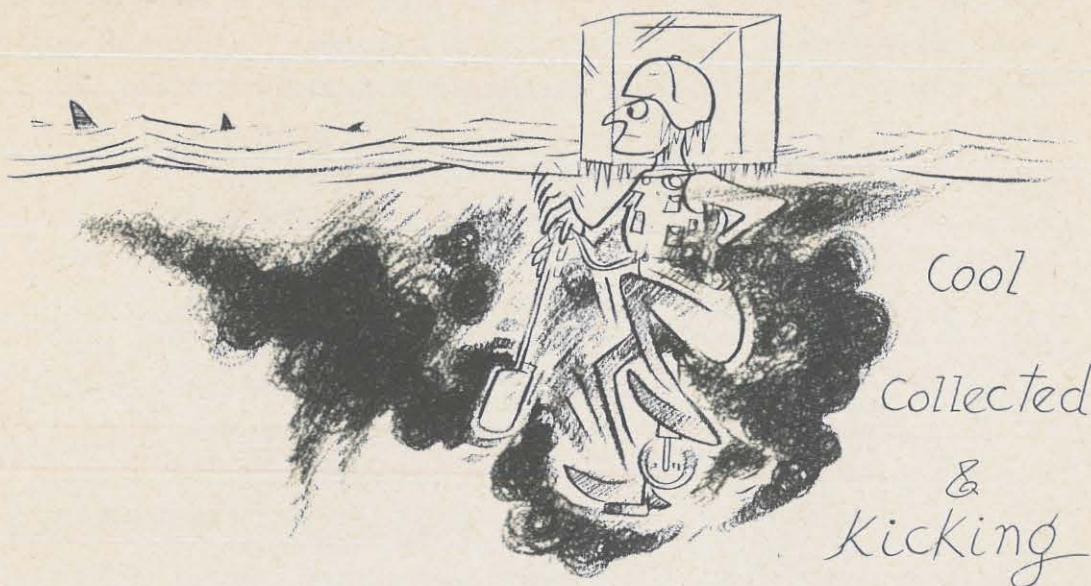
of the water and could prevent your bleeding to death. All right, then. The bleeding stopped, swim away from where the blood went into the water. You want to be elsewhere if a shark should come to investigate the blood spoor. If there are sharks around, one of them may turn up after a while even if there is no blood. Keep a sharp watch. He may circle you a few times at a distance of 50 yards or more, close to the surface, with his dorsal fin probably breaking the water.



Steady on, now. Keep him in view and unsnap the top of your shark-chaser packet. Peel down the waterproof covering to release the cake of repellent into the water. It drops down below you, attached to its envelope by means of a four-foot tape. Pull up the chaser cake and swish it through the water to hasten the dissolving process. Try to stay in the *middle* of the cloud of black dye. Another thing: if you are also using your dye marker, swim away from it when you release the shark chaser because the black dye of the repellent darkens the brilliant yellow-green fluorescence of the dye marker, making your position harder to spot.

The shark may come closer, moving up and staring at you from a distance of a few feet. If he does, make sure your shark chaser cake is dissolving as fast as possible; you want as much of it between you and the shark as you can get. *Don't take any other action.* Stay as calm as you can, riding quietly in your life vest. But keep in motion, lest

the shark mistake you for a corpse. Remember that the shark doesn't like weak, fluttery movements but is more likely to be repelled by steady, regular motions.



Now the shark may go away. If he does, and there is no further immediate threat from him or his brethren, return your chaser cake to its waterproof envelope. It will stop dissolving and you can use it again if the need develops. The chaser is effective for from two to four hours, but no need to waste it.

Remember that a shark can't hurt you with his mouth shut. *The shark strikes with his mouth opened wide and his vision blocked.* If he comes at you with his mouth open, he can't see you; so you may be able to move out of his path and gain at least a momentary reprieve.

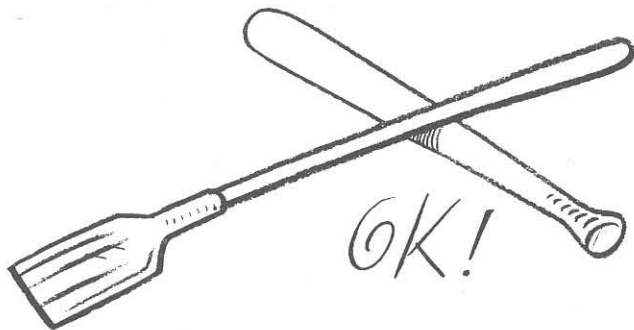
Don't turn your back on him by swimming away. Face him and swim quickly to one side if he comes on in. At flank speed, a shark is not maneuverable. He cannot stop suddenly or turn in a tight circle.



No sitting ducks!

Hitting the shark over the nose with your fist or a blunt object has been tried with some success. In one case, the shark swam away immediately. Cousteau, encountering a shark on a skin-diving expedition, kept banging the shark over the nose with his camera and discouraged him long enough to get away. Later, when Cousteau went into shark-infested waters, he carried a shark billy, a wooden staff about four feet long with nail tips in one end. He used this to poke sharks that got too close. The nails kept the billy from sliding off the shark skin but didn't penetrate enough to get the shark's dander up.

Now, about your pistol. Don't shoot the shark. Your bullet is more likely to infuriate than kill him; what's more, it will draw



blood and make you the center of attention for all the other sharks in your particular chunk of ocean.

Whether the sound of a pistol shot will scare away a shark is not known for sure. As a matter of fact, the whole subject of how sharks react to various kinds of sounds is one of the areas now being investigated by shark men. Some skin divers have reported that shouting under water repulses sharks; on the other hand, some kinds of sounds attract sharks, among them distant explosions. Indonesian shark fishermen use a sound-making device to attract sharks, and some other kinds of sounds may even provoke them into attacking—you pay your money and you take your choice. In the face of conflicting evidence, the reasonable procedure would be not to fire your pistol unless other methods of repulsing the shark fail. Then shoot into the air, pound the water with your hands, and yell. The shark may revert to his cowardly self and retreat.

You're in luck when you have some friends along if you go down at sea. A group of clothed men, together in the water, is safer from

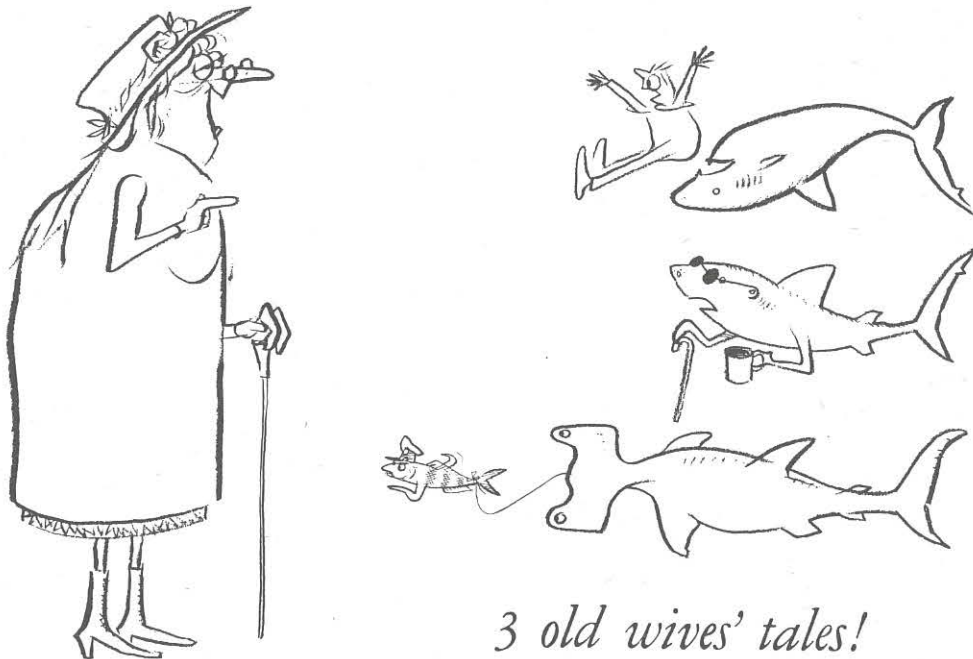


sharks than a single man. The reason, probably, is that the shark simply is presented with a bigger problem. After all, most sharks are not accustomed to dealing with one man, let alone a bunch. If you are in a group, use only *one* shark-chaser packet, saving the rest for the future. One cake will usually give plenty of protection. And if the

group is threatened, move close together in a circle; in fact, tie yourselves together if the sea is rough and you have a line. Face outward so that you can see an approaching shark and keep that repellent all around. A wounded man should be kept in the middle and bleeding stopped by means of a tourniquet.

VOODOO STUFF

There are almost as many superstitions about sharks as there are sharks. Here are some of them:



3 old wives' tales!

No. 1. *A shark can't bite you unless he turns on his back.* This is probably based on the fact that a shark *can* bite you when he's on his back. He can bite you in the middle of a slow roll or an Immelmann, for that matter. He doesn't seem to care whether his position

is unusual or not, though most often, of course, he comes in straight and level. But remember: if he has his mouth open, he is strictly on instruments. He's feeling for you; he can't see you. He maneuvers pretty much the same way an airplane does. His dorsal fin is his stabilizer; his two pectoral fins act as elevators and ailerons.

No. 2. *A shark can't see any dark object.* There's not much support for this one, though it has long been believed that people with dark skins are not attacked by sharks. The fact is that dark-skinned Australian aborigines have been repeatedly attacked, as have other dark-skinned people. Even so, Greek sponge divers working under water in black diving suits put their hands in their armpits to hide the whiteness of their palms. Most evidence indicates that, although sharks have sensitive eyes, they cannot see images sharply. They *can* pick out dark and shadowy forms, but they are completely colorblind.

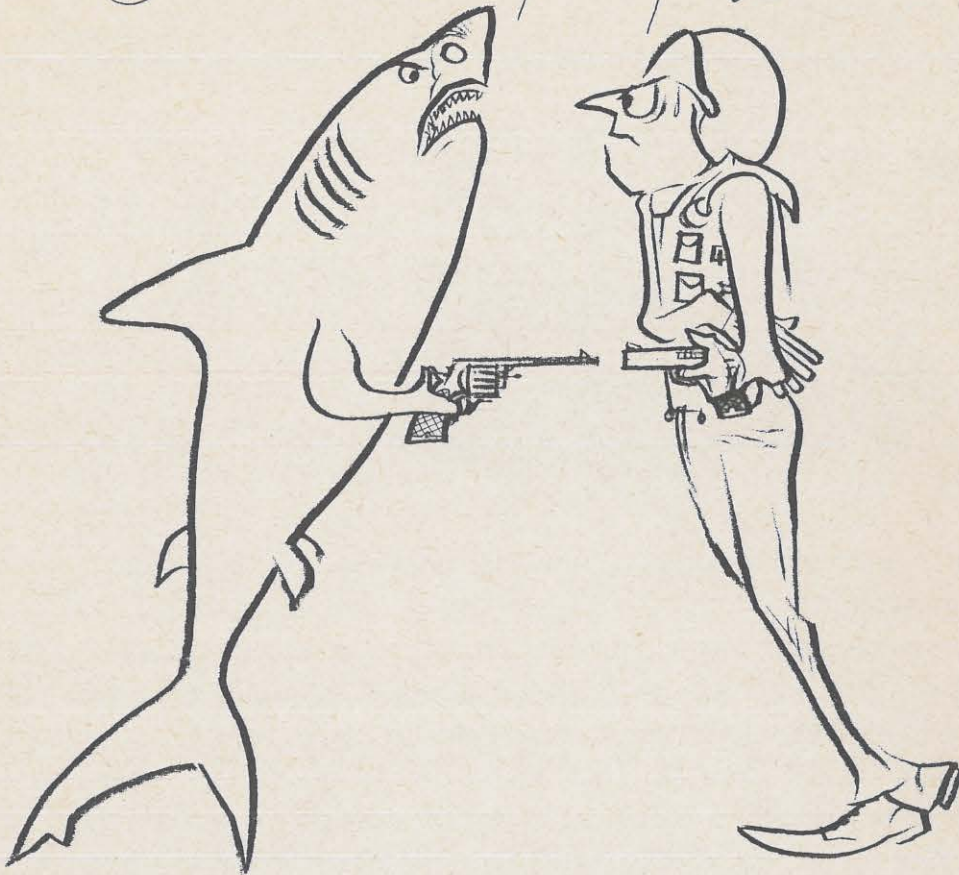
No. 3. *Big sharks are blind and are steered by pilot fish.* This one must have been dreamed up by that fellow who didn't go near the water, for obviously a blind shark wouldn't last long in the constant battle for survival. A shark without sight might be here today, but he'd surely be gone tomorrow.

The pilot fish, of course, doesn't pilot the shark. He just goes along for the ride and the meal, feeding on crumbs left by the shark. Incidentally, the pilot fish doesn't have to exert himself much to keep up. He swims into a compressibility wave just forward of the shark's snout and gets pretty much a free ride. He has to stay there, too, because if he gets in the line of fire the shark will snap him up as quickly as he will any other fish.

WHAT TO KEEP IN MIND

Known maneaters do not always attack. In fact, it is impossible to say they always do *any* one thing. Their behavior runs the gamut

Alright! No Nonsense out of you!



from downright timidity through persistent nosiness to dangerous hostility—depending upon the phases of the moon, the average yearly rainfall in Muncie, Indiana, and who won the World's Series in 1924.



The word for the predatory shark is unpredictable. Your best protection is your shark chaser. Sharks take one look at the magnificent

*I'm in here
& doing fine!*

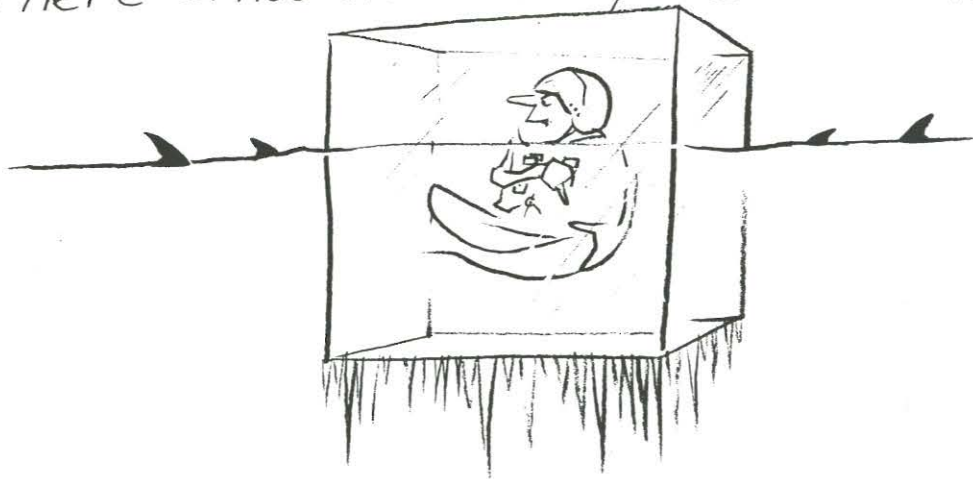


black aura surrounding a downed pilot and recall urgent business elsewhere.

Remember: sharks can be dangerous, especially if you have no life raft. If there is blood in the water near you, camouflage it with shark repellent. Better still, move away from it.

Many men have survived hours and even days in shark-infested waters by remaining calm and using their heads. Don't get shook just because there are sharks around. Panic leads only to unreasonable response to danger and narrows your chances of survival.

I'm here & not shook & I think I can lick 'em.



*If you're out there,
play it cool!*

